

Delta Operations for Salmonids and Sturgeon (DOSS) Group
Conference call: 12/11/12 at 9:00 a.m.

Objective: Provide advice to the Water Operations Management Team (WOMT) and National Marine Fisheries Service (NMFS) on measures to reduce adverse effects from Delta operations of the Central Valley Project and the State Water Project on salmonids and green sturgeon. DOSS will work with other technical teams. DOSS notes and advice can be found at: <http://www.swr.noaa.gov/ocap/doss.htm>.

DWR: Edmund Yu, Kevin Reece, Tracy Pettit, Dan Yamanaka, Andy Chu, Mike Ford, Reza Shahcheraghi

FWS: Leigh Bartoo, Roger Guinee

NMFS: Barb Byrne, Jeff Stuart, Barbara Rocco, Bruce Oppenheim, Garwin Yip

Reclamation: Russ Yaworsky, Josh Israel

DFG: Bob Fujimura, Robert Vincik, Jason Roberts

EPA: Erin Foresman

SWRCB, USGS: not present

Agenda

1. Fish monitoring
2. Current operations
3. Clarifications re: action response in Action IV.3
4. Export change turnaround time

Fish Monitoring: The following table presents fish monitoring data. Unless otherwise noted, reported sizes are fork length. See also:

<http://www.water.ca.gov/swp/operationscontrol/calfed/calfedmonitoring.cfm>.

Location	Chippis Is. Midwater Trawl	Sacramento Trawls	Mossdale Kodiak Trawl	Beach Seines	Knights Landing RST	Tisdale Weir RST
Sample Date	12/3, 5, 7	12/3, 5, 7	12/3, 5, 7	12/3, 4, 6, 7	12/4–12/10	12/4–12/10
Total Catch	54	118	0	94	859	450
FR		46		18	89	149
WR		29		66	452	206
SR		15		17	257	66
LFR	1	2		2	12	12
Ad-Clipped Chinook	12	26		13	49	17
DS	31 (62–91 mm; not mature)			1 (Liberty Island)		
Splittail	1			2		
Longfin	9					

SH (ad-clip)						1
SH (wild)						
W. Temp. (avg. °F)	56.1	55.0	57.0	55.8	54.0	52.0
Flows (avg. cfs)					24,352	27,600
Turbidity (avg. NTU)	51.2	177.7	15.7	86.5	462	153.5
WR/LFR Avg. CPUE					2.74	2.69
FR/SR Avg. CPUE					1.54	2.58

Key: FR = Fall run; LFR = Late-fall run; SR = Spring run; WR = Winter run; SH = Steelhead; DS = Delta smelt; LFS = Longfin smelt; CPUE = catch per unit of effort; N/A = not available

Fish Monitoring: Sacramento River flows at Tisdale have been >38,000 cfs. There have been at least 50 winter run/day coming through the Tisdale rotary screw traps (RST). On 12/8, one trap was down because of damage from a 30-foot fallen oak tree; however, a new trap was back in the water the following day. Extra traps are kept on hand to quickly replace those that get damaged. At Knights Landing (KL), 40 winter run/day are coming through now. The spring run counted at KL are less than 40 mm long and some fall run appear to have held over from last year. One trap was down for 1 day, but both are back up and running. Winter run are entering the Delta, but it does not appear as though they are leaving because none have been observed at the Chipps Island trawl. Spring run that are now entering the Delta are not being classified as older juveniles based on size information.

Fish Salvage¹: The following information for steelhead, splittail, and sturgeon was provided by Geir Aasen (DFG) in an email to DOSS (for salmon data, see graphs below provide by Bob Fujimura (DFG) and on the DFG website):

This report covers the period from 12/3/2012 to 12/9/2012. Please note these results are preliminary and may be subject to change. This report is also posted at <ftp://ftp.delta.dfg.ca.gov/salvage> and you can locate the table under folder “DOSS salvage tables” (also try <http://www.dfg.ca.gov/delta/apps/salvage/Default.aspx>) and click on “salvage FTP site”).

SALMON

Adipose-clipped fish were salvaged from 12/5 through 12/8, which were from either Coleman National Fish Hatchery, or the Mokelumne River Hatchery production releases. Mokelumne River Hatchery started releasing fall-run Chinook into the Mokelumne River below the hatchery, so some of those recovered at the fish facilities are from that release. Yu (DWR) will provide a spreadsheet of hatchery releases and the identification of coded-wire-tagged (CWT) fish from the salvage facilities.

¹ The term “salvage” refers to the number of fish observed during a 30-minute count, which are then expanded for the 2-hour period of the sample. For these notes, we used “observed” fish as the number counted and “salvaged” as the number expanded.

The loss declined to three fish at the CVP on 12/6 for non-clipped older juvenile Chinook salmon. One non-clipped steelhead was observed on 12/6 at the CVP. According to Aasen's preliminary report for Monday 12/10, there were six ad-clipped Chinook observed at the SWP. He indicated that those were within the fall-run and late-fall-run size range. No Chinook were observed at the CVP on 12/10 and no non-clipped Chinook, steelhead, or sturgeon were observed at either the CVP or the SWP.

The following daily summary graphs and table were prepared by Bob Fujimura (DFG).

Compiled by Bob Fujimura on December 10, 2012



Figure 1. Daily salvage of Chinook salmon (all races) and water exports from the state and federal fish salvage facilities during November 18 through December 9, 2012. Graph obtained from the DFG salvage monitoring web-page: <http://www.dfg.ca.gov/delta/apps/salvage/SalvageExportCalendar.aspx>.



Figure 2. Daily salvage of steelhead and water exports from the state and federal fish salvage facilities during November 18 through December 9, 2012. Graph obtained from the DFG salvage monitoring web-page: <http://www.dfg.ca.gov/delta/apps/salvage/SalvageExportCalendar.aspx>.

DOSS Weekly Salvage Update
Reporting Period: Dec 3-9, 2012
 Prepared by Bob Fujimura on December 10, 2012
 Preliminary Results - Subject to Revision

Criteria	3-Dec	4-Dec	5-Dec	6-Dec	7-Dec	8-Dec	9-Dec	Trend
Loss Densities								
Wild older juvenile CS	2.1	4.7	0.0	0.1	0.0	0.0	0.0	↗
Wild steelhead	0.0	0.0	0.0	0.03	0.0	0.0	0.0	↗
Exports								
SWP daily export	12,861	13,327	12,940	13,300	13,272	5,281	6,339	↘
CVP daily export	8,726	8,682	8,693	8,677	8,665	6,550	5,558	↘

Loss Density = fish lost/TAF; water export = AF; Trend = compared to previous week; wild = adipose fin present

Chinook Salmon Weekly/Season Salvage and Loss
 Combined salvage and loss for both CVP and SWP fish facilities

Category	Weekly Total			Season Total	
	Salvage	Loss	Trend	Salvage	Loss
Wild					
Winter Run	8	21	↗	8	21
Spring Run	0	0	→	0	0
Late Fall Run	29	109	↗	29	109
Fall Run	9	21	↘	9	21
Unclassified	0	0	→	8	5
Total	46	151		54	156
Hatchery					
Winter Run	0	0	→	0	0
Spring Run	0	0	→	0	0
Late Fall Run	19	67	↗	19	67
Fall Run	8	21	↘	8	21
Unclassified	0	0	→	0	0
Total	27	88		27	88

Race determined by size at date of capture; hatchery = adipose fin missing;

Steelhead Weekly/Season Salvage and Loss
 Combined salvage and loss for both CVP and SWP fish facilities

Category	Weekly Total			Season Total	
	Salvage	Loss	Trend	Salvage	Loss
Wild	1	0.7	↗	5	18
Hatchery	0	0	→	0	0
Total	1	0.7		5	18

State Water Project loss = salvage x 4.33; Central Valley Project loss = salvage x 0.68

STEELHEAD

Steelhead (NON adipose clipped) were salvaged at the federal facility (weekly observed = 1), but not at the state facility for the period of reporting.

SPLITTAIL

Splittail were salvaged at the state facility (weekly observed = 4), but not at the federal facility for the period of reporting. The seasonal (10/01/2012 to present) salvage total of splittail at the federal facility is 5. The seasonal (10/01/2012 to present) salvage total of splittail at the state facility is 8.

STURGEON

No green or white sturgeon were observed at either facility for the period of reporting. The seasonal (10/01/2012 to present) salvage total of green sturgeon is 0. The seasonal (10/1/12 to present) salvage total of white sturgeon at the federal facility is 4. No white sturgeon have been observed at the state facility this water year.

SPECIAL NOTES

No other listed species (delta smelt, longfin smelt) have been observed at either facility this water year.

NMFS' RPA Action IV.3 Triggered Last Week: The objective of RPA Action IV.3 (page 80 in the 2009 RPA with 2011 amendments) is to reduce the loss of winter run, spring run, steelhead, and green sturgeon by reducing exports when large numbers of juvenile Chinook salmon are migrating into the upper Delta region, at risk of entrainment into the central and south Delta and then to the export pumps in the following weeks. RPA Action IV.3 was triggered on 12/4 by the expanded loss of 103.72 older juvenile Chinook at the CVP/SWP and NMFS was notified on 12/5. It was noted that the trigger criteria based on older juvenile Chinook salmon are based on the minimum winter-run length at that date, which includes larger fall-run. This is the problem with using length-at-date to identify runs. There is quite a bit of overlap between the runs. However, there are most likely winter run that are also below the length-at-date criteria, but we must use the tool we have even though we acknowledge that it has limitations.

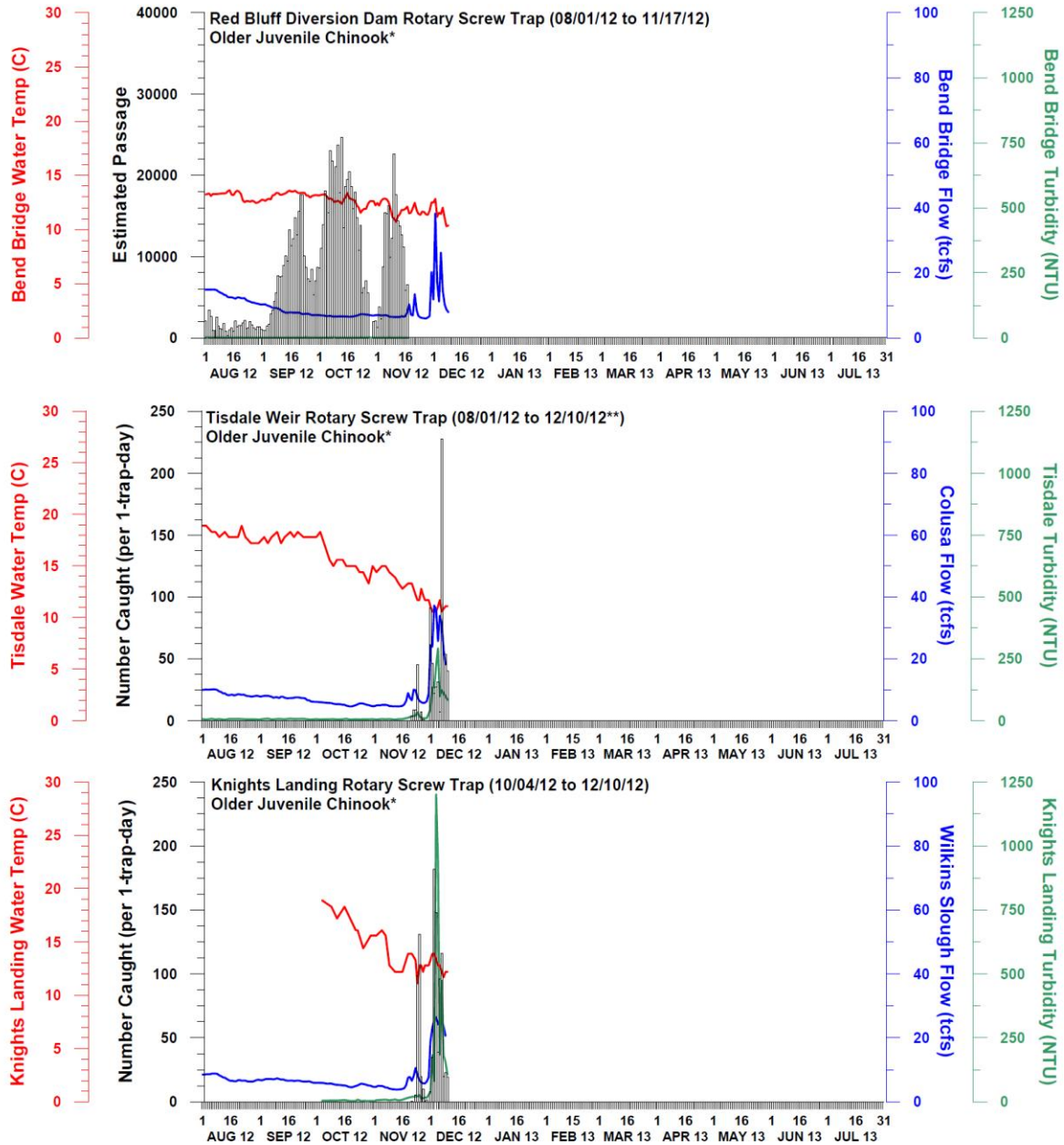
On 12/4, the older juvenile Chinook salmon consisted of one winter run, four late-fall run, and one fall run Chinook observed at the SWP. At the CVP on 12/4, one was winter run, one was late-fall run, and one was a fall run. For the older juvenile Chinook salmon classification, there were two winter run plus five late-fall run and two fall run in that size range. It was noted that the fall run are actually yearlings that must have held over. It seems that in the past, we did not have that many fall-run Chinook that fit into the older juvenile Chinook salmon classification.

The other triggers in Action IV.3 are for hatchery winter-run and spring-run surrogates that have not yet been released; therefore, the hatchery release CWT triggers do not yet apply. The first spring-run surrogate release is scheduled for after 12/15. What CWTs we're seeing are either from the Coleman late-fall-run production release or the Mokelumne River Hatchery fall-run release. We do track them, but they do not trigger any actions.

As a result of triggering Action IV.3, the Projects reduced combined exports to no greater than 6,000 cfs on 12/8, 12/9, and 12/10.

NOTE: Below are graphs provided by DWR through 12/10/12 for older juvenile salmon and steelhead in the Sacramento and San Joaquin rivers. For additional graphs, please visit the DWR website at: <http://www.water.ca.gov/swp/operationscontrol/calfed/calfedmonitoring.cfm>.

NUMBER OF OLDER JUVENILE CHINOOK MEASURED IN THE SACRAMENTO RIVER



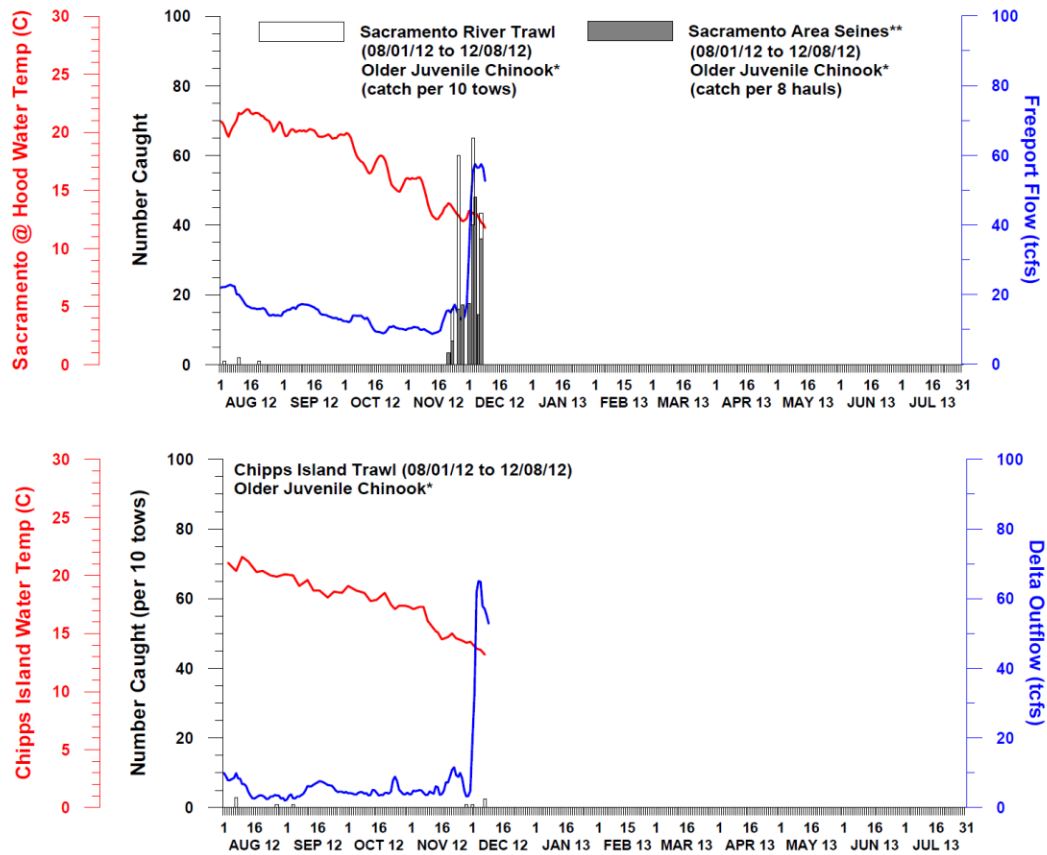
DWR-DES 10 DEC 2012

Preliminary data from DFG, FWS, and CDEC; subject to revision.

*Older juvenile Chinook defined as all Chinook above the minimum length for winter-run (Frank Fisher model). However, Chinook greater than the length at date criteria are not reported as older juvenile Chinook.

** Tisdale Weir: One older juvenile caught on 9/14 and 43 older juvenile caught on 11/25. However, CPUE was not calculated due to problems. As a result, data are not presented on the graph.

NUMBER OF OLDER JUVENILE CHINOOK MEASURED IN THE LOWER SACRAMENTO RIVER & CHIPPS ISLAND



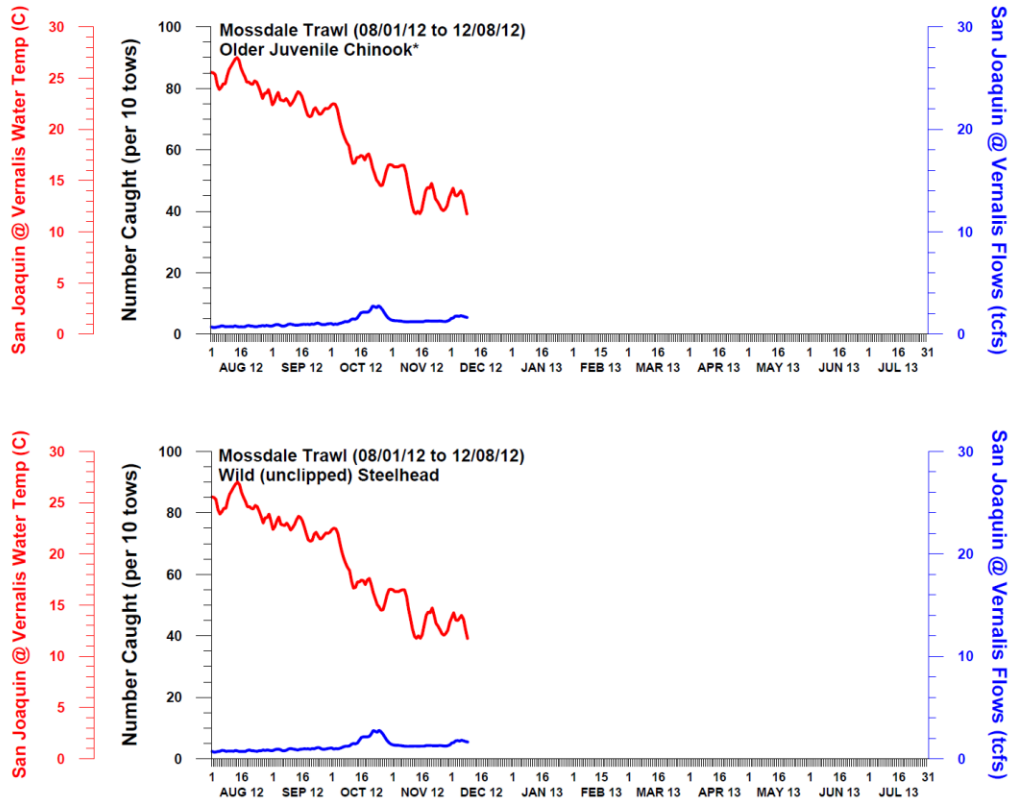
DWR-DES 10 DEC 2012

Preliminary data from FWS and CDEC; subject to revision.

*Older juvenile Chinook defined as all Chinook above the minimum length for winter-run (Frank Fisher model). However, Chinook greater than the length at date criteria are not reported as older juvenile Chinook.

**Sacramento area seine route consists of the following seine sites: Verona, Elkhorn, Sand Cove, Discovery Park, American River, Miller Park, Sherwood Harbor, and Garcia Bend. Bars are stacked if Chinook caught from the trawl and seines are from the same day.

NUMBER OF OLDER JUVENILE CHINOOK AND STEELHEAD MEASURED IN THE SAN JOAQUIN RIVER



DWR-DES 10 DEC 2012

Preliminary data from FWS and CDEC; subject to revision.

*Older juvenile Chinook defined as all Chinook above the minimum length for winter-run (Frank Fisher model). However, Chinook greater than the length at date criteria are not reported as older juvenile Chinook.

Operations (12/11/12)

SWP		CVP	
Exports (cfs)			
Clifton Court Forebay	6,680	Jones Pumping Plant	4,000 (average today increased from 2,800 to 4,500 cfs this morning)
Reservoir Releases (cfs)			
Feather - Oroville	2,075	Nimbus	2,000 (increase to 2,500 cfs tomorrow. Encroached into flood space 35 TAF)
		Sacramento - Keswick	4,500
		Stanislaus - Goodwin	275
Reservoir Storage (in TAF, % of capacity)			
San Luis (SWP)	336	San Luis (CVP)	592 (61)
Oroville	2,284	Shasta	3,025 (gained 600 TAF in Shasta from the storm last week)
New Melones		Folsom	589
Delta Operations			
DCC	Closed	Sacramento River at Freeport (cfs)	46,174
Outflow Index (cfs)	35,900	San Joaquin River (cfs) at Vernalis	1,591
Total Delta Inflow (cfs)	48,906	OMR (daily) (cfs)	-4,400 (yesterday)
Water Temperature (°F)		OMR 5 day (cfs)	
X2 (km)	63	OMR 14 day (cfs)	
E/I (%)	16.7 (14-d avg.)		

Water Quality: Turbidity is increasing in the Delta from the Sacramento River, but still within D-1641 limits. Water quality at Jersey Point looks good but salinity is expected to increase with the high tides this week. With the rain expected Wednesday, there should be enough water in the system to flush out the Delta quickly. Over the weekend, combined pumping was <6,000 cfs, pursuant to meeting the RPA Action IV.3 response. QWEST was about 4,000 cfs as of yesterday.

Export Change Turnaround Time: DOSS discussed the logistics of changing combined exports and the time needed to implement the change in operations. DWR noted that to accommodate any power scheduling change, a 2- to 3-day turnaround is needed. If operators receive the alert that an action trigger has been met, they need at least 2–3 days to implement a change in export operations because the power has already been “ordered” in advance and a work order cannot be changed without incurring penalties/fines from the power agencies. DWR, for example, must submit a 3-day preliminary power schedule whether increasing or decreasing

export pumping. DWR stated that it would be cost prohibitive (because of the fines) to change power purchases on a “real-time” daily basis.

Clarifications Re: Action Response in Action IV.3: A discussion was held to clarify the “off ramp” action trigger criteria for increasing exports after the 3-day period of reduced exports for the action response. There should be an off-ramp criterion that incorporates all four action triggers, not just one criterion based on fish density as written in the 2009 RPA with 2011 Amendments.

It is important to also note that these criteria for exports were not under the same circumstances as those used for OMR flow management (RPA Action IV.2.3). OMR is based on averaging the tidal period, whereas exports are more discreet. They are two different things and the responses and behavior of the fish are different in each. It was also noted that RPA Action IV.3 criteria were based on the salmon decision tree that was developed nearly 15 years ago.

For today’s discussion, it was made clear that the purpose of a revision was to clarify the off-ramp language describing criteria after the action response not the action response itself. DOSS agreed to discuss and that clarifications were needed, and then review the suggested changes in the table in RPA Action IV.3 in track changes mode.

The duration of the action response is a 3-day response to exceeding a trigger. If an action trigger is exceeded during the 3-day action response period, a new action response is required as soon as possible based on the projects change orders and power scheduling. It was noted that there does not need to be an independent action trigger for >95 fish/day because combined exports at 6,000 cfs and fish density at >8 fish/TAF is approximately the same number (6,000 cfs = 12 TAF; 12 TAF x 8 fish/TAF = 96 fish) as the action trigger of combined loss > 95 older juvenile Chinook salmon.

It was agreed that if during the reduced export period of compliance, the action is triggered again, a new action response begins for another 3-day period. The action response then is to reduce exports to 6,000 cfs for another 3 days. This is the result of the time lag in issuing change orders and power scheduling because the Projects do not have enough lead time to continue with the initial action response.

Additional clarifications for RPA Action IV.3:

- “or” criterion in the action response doesn’t really make sense.
- The second-level trigger for a hatchery release “cumulative loss >0.5%” is the same as first-level trigger, so you can’t have two different responses for the same trigger. The action response is a flat 3 days of combined export reduction.
- The 8 fish/TAF in the action response for the second-stage trigger should be consistent with the action trigger; that is, 15 fish/TAF.
- A transition period of 2 days, similar to RPA Action IV.2.3 will be added to schedule power.

DOSS agreed that for every trigger met, a new 3-day reduction in exports is required (a new action response). The new action response would apply after the previous 3-day action response.

NMFS is not planning to issue an amended RPA in 2013, so DOSS needs to formalize these clarifications. Similar to how changes were made for Action IV.2.3, clarifications will be reflected in the DOSS notes and WOMT and NMFS will be notified.

Annual Report: Note that the annual review report from the Independent Review Panel through the Delta Science Program is now available at <http://deltacouncil.ca.gov/science-event-detail/7842>.

Mill & Deer Creeks Monitoring: The summary report of the last 13 years was discussed at the Implementation Management Team. Alice Low (DFG) sent out an email to DOSS asking for feedback on a proposal to look at flow and temperature criteria instead of actual numbers of fish for a first alert. Does DOSS want to provide any comments back to DFG on that report, which is being revised? We can put this on the agenda for next week to give people time to think about it.

Smelt Working Group (SWG): A meeting was held on Friday but there was no need for a recommendation. No one requested a meeting for Monday.

DOSS Advice to WOMT and NMFS: No advice today, but DOSS will give advanced notice of intentions to clarify the off-ramp criteria in RPA Action IV.3.

Holiday Schedule: With both Christmas and New Year's Day falling on a Tuesday, we would most likely shift the DOSS meeting to Wednesday at 9:00 a.m. (12/26 and 1/2/13); however, it is not likely that we'll have a call on 12/26 because many people will be on leave. At next week's meeting, we will discuss who is available to cover those days. Data might not be available on Wednesday after those holidays; Fujimura will check.

Next Meeting: The next DOSS conference call meeting is scheduled for 12/18/12 at 9:00 a.m.